

## Abstract

It used to be difficult to determine representative colors which allow color conversion with accuracy throughout color spaces without occurrences of local tone jump.

An ink quantity lattice point smoothness evaluation function for evaluating the smoothness of the disposition of ink quantity lattice points whose components are the ink quantities of inks in various colors and a CMY lattice point smoothness evaluation function for evaluating the smoothness of the disposition of CMY lattice points defined by CMY color components are defined. The CMY lattice points and the ink quantity lattice points wherein the ink quantity lattice point smoothness evaluation function and the CMY lattice point smoothness evaluation function are separately minimized are taken as lattice points for correspondence definition data creation. After both are separately substantially minimized, a binding condition is imposed so that the ink quantity lattices after readjustment will be converted into CMY color lattice points determined by the minimization by a predetermined transformation expression for converting ink quantity lattice points into CMY lattice points. Further, limitation on ink quantities adhering to a printing medium is imposed as a binding condition. Thus, the positions of the ink quantity lattice points are readjusted.